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EXAMINER	
PARK, CHAN S	

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/488,091	LILLAND ET AL.	
	Examiner	Art Unit	
	CHAN S. PARK	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,15-18 and 20-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-18 and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10-17-05
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. 20060124
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 11/18/05, and has been entered and made of record. Currently, **claims 1-13, 15-18, 20-23** are pending.

Response to Arguments

2. Applicant's arguments with respect to **claims 1-13, 15-18, 20-23** have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

4. The indicated allowability of **claims 15-18, 20 and 21**, as currently amended, is withdrawn in view of the newly discovered references to Kikuno U.S. Patent No. 4,627,715 (hereinafter Kikuno) in view of Bradshaw et al. U.S. Patent No. 6,264,295 (hereinafter Bradshaw). Rejections based on the newly cited references follow.

Claim Objections

5. Claim 15 is objected to because of the following informality:

Step "(n) rendering the image file" should be -- (n) rendering said another image file --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 13 refers to step (f). There is insufficient antecedent basis for this limitation in the claim. Perhaps, claim 5 should remain as a dependent claim of claim 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5, 12, 13, 15, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuno in view of Bradshaw.

7. With respect to claim 1, Kikuno teaches a method for monitoring at least one print consumable of a printing device comprising:

a. receiving a print job, wherein the print job includes an image file and a copy number representing the number of copies of the image file (JOB1 having 5 copies for each of 5 originals) that are to be printed (col. 4, lines 26-41); and

b. estimating a requested print consumable amount based on the image file and the copy number that is needed to render the print job before rendering the print job (col. 4, lines 41-61).

The print consumable amount that is needed to render the print JOB1, for example, is estimated/calculated to be *toner* amount for 25 copies. In other words, the system estimates that it needs enough toner to print 25 copies for the print job. Further, this estimation is done based on the image file (the number of originals in the job) and the copy number (the number of copies to be made for the job).

Kikuno, however, does not teach expressly that the printing device is a compact disc printing device.

Bradshaw, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Kikuno and Bradshaw are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Kikuno with the method of printing image data on a CD surface of Bradshaw.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Kikuno with Bradshaw to obtain the invention as specified in claim 1.

8. With respect to claim 5, Kikuno teaches the method, wherein the estimating step (b) further comprises estimating a single print consumable amount needed to print a

single copy of the image file (printing 1 copy of 5 originals), wherein the requested print consumable amount is based on the product of the single print consumable amount and the copy number (col. 4, lines 51-52).

9. With respect to claim 13, Kikuno teaches the method, wherein the rendering step (f) comprises:

(f) (i) printing a single copy of the image file;

(f) (ii) deducting the single print consumable amount from the remaining print consumable amount (col. 3, lines 30-55); and

(f) (iii) repeating the printing step (f) (i) and the deducting step (f) (ii) until the print job is completely rendered (col. 4, lines 8-13).

10. With respect to claim 23, Kikuno teaches the method, including:

c. obtaining a remaining print consumable amount defined as an amount of print consumable that is loaded in the printing device (col. 3, lines 30-55);

d. comparing the requested print consumable amount to the remaining print consumable amount (col. 4, lines 42-61);

e. interrupting rendering the print job, prior to rendering the print job, when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 26-30); and

f. rendering the print job with the CD printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 6, lines 3-12).

11. With respect to claim 2, Kikuno teaches the method, wherein the interrupting step (e) includes warning the user that the print job cannot be completed (col. 6, lines 26-30).

12. With respect to claim 12, Kikuno teaches the method, wherein the rendering step (f) further comprises updating the remaining print consumable amount by deducting the requested print consumable amount (col. 3, lines 30-55 & col. 4, lines 8-13).

13. With respect to claim 15, Kikuno teaches the method for monitoring at least one print consumable of a printing device, comprising:

(a) receiving a print job from a user, wherein the print job includes a number of image files that are to be rendered (col. 4, lines 8-13);

(b) estimating a single print consumable amount for an image file of the print job (printing 1 copy of 5 originals from JOB1) that is needed by the printing device to render the image file before rendering of the image file begins (col. 4, lines 51-52);

(c) estimating a requested print consumable amount needed to render the print job by multiplying the single print consumable amount by the number of image files that are to be rendered (col. 4, lines 51-52);

(d) obtaining a remaining print consumable amount defined as an amount of print consumable that is available to the printing device (col. 3, lines 30-55);

(e) comparing the requested print consumable amount to the remaining print consumable amount (col. 6, lines 3-10);

(f) interrupting rendering the print job, prior to rendering the image file, when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 26-30);

(g) rendering the image file with the printing device when the requested print consumable amount does not exceed the remaining print consumable amount (col. 5, lines 1-6);

(h) updating the remaining print consumable amount by subtracting the single print consumable amount of the image file (col. 3, lines 30-55);

(i) determining whether the remaining print consumable amount has been exhausted (col. 3, lines 30-55);

(j) interrupting the rendering of the print job, when the remaining print consumable amount has been exhausted (col. 6, lines 26-30);

(k) determining whether all of the image files of the print job have been rendered (col. 4, lines 62-68);

(m) estimating a single print consumable amount of another image file of the print job if all of the image files have not been rendered (col. 4, lines 46-61);

(n) rendering the image file (col. 5, lines 1-5); and

(o) returning to step (h) (col. 4, lines 62-68).

The print consumable amount that is needed to render the print JOB1, for example, is estimated/calculated to be *toner* amount for 25 copies. In other words, the system estimates that it needs enough toner to print 25 copies for the print job. Further,

this estimation is done based on the image file (the number of originals in the job) and the copy number (the number of copies to be made for the job).

Kikuno, however, does not teach expressly that the printing device is a compact disc printing device.

Bradshaw, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41).

Kikuno and Bradshaw are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Kikuno with the method of printing image data on a CD surface of Bradshaw.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Kikuno with Bradshaw to obtain the invention as specified in claim 15.

14. With respect to claim 20, arguments analogous to those presented for claim 15, are applicable.

15. With respect to claim 22, Kikuno discloses a system for monitoring print consumables of a printing device, the system comprising:

a software application executable by the processor and configured to prepare a print job, wherein the print job includes an image file and a copy number representing the number of copies of the image file that are to be printed (col. 4, lines 8-31); and

a print consumables monitoring module configured to (col. 3, lines 30-55):

communicate with the software application and the memory;

maintain a remaining print consumable amount representing the amount of print consumable currently available to the printing device in the memory (col. 3, lines 30-55);

estimate a requested print consumable amount based on the image file and the copy number that is needed to process the print job before rendering of the print job begins (col. 4, lines 42-61); and

compare the remaining print consumable amount to the requested print consumable amount (col. 4, lines 42-61);

whereby the rendering of the print job is interrupted when the requested print consumable amount exceeds the remaining print consumable amount (col. 6, lines 26-30).

The print consumable amount that is needed to render the print JOB1, for example, is estimated/calculated to be *toner* amount for 25 copies. In other words, the system estimates that it needs enough toner to print 25 copies for the print job. Further, this estimation is done based on the image file (the number of originals in the job) and the copy number (the number of copies to be made for the job).

Kikuno, however, does not teach expressly that the printing device is a compact disc printing device and the system having the I/O port to connect to the printing device.

Bradshaw, on the other hand, discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41) wherein the printing device is connected through the I/O port (col. 6, lines 64-67). Further, it is well known in the art at the time of the invention that the conventionally copier receives print jobs and commands via a network.

Kikuno and Bradshaw are analogous art because they are from the same field of endeavor, which is the printing art.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the method of detecting the remaining print consumable amount and interrupting the print job based on the remaining amount of Kikuno with the method of printing image data on a CD surface of Bradshaw.

The suggestion for doing so would have been to provide a CD printer that monitors the print consumable such as remaining CD labels or CD's to be printed.

Therefore, it would have been obvious to combine Kikuno with Bradshaw to obtain the invention as specified in claim 22.

Claims 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kikuno and Bradshaw as applied to claim 23 above, and further in view of Hilton et al. U.S. Patent No. 6,158,837 (hereinafter Hilton).

16. With respect to claim 3, the combination teaches the method of claim 23, but it does not explicitly teach the interruption step (e) further comprising a step of providing the user with an option of adjusting the copy number of the print job.

Hilton, the same field of endeavor of monitoring/comparing the print job with the remaining print consumable amount in the printer, teaches the method for providing the user with an option of adjusting the copy number of the print job when the interruption occurs (step 111 in fig. 8).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the method of Hilton into the printing system of Kikuno.

The suggestion/motivation for doing so would have been to reduce the amount of print consumable for the particular print job.

Therefore, it would have been obvious to combine three references to obtain the invention as specified in claim 3.

17. With respect to claim 6, Kikuno teaches the method wherein,

the estimating step (b) further comprises calculating a maximum copy number representing a maximum number of copies of the image file that can be printed based upon the remaining print consumable amount and the single print consumable amount (col. 6, lines 3-18).

Kikuno, however, does teach explicitly the interrupting step (e) comprising the step for providing the user with at least on option selected from the group consisting of:

adjusting the copy number of the print job to the maximum copy number; and

adjusting the copy number of the print job to a number that is less than the maximum copy number.

Hilton, the same field of endeavor of monitoring/comparing the print job with the remaining print consumable amount in the printer, teaches the method for providing the user with at least on option selected from the group consisting of:

adjusting the copy number of the print job to the maximum copy number; and

adjusting the copy number of the print job to a number that is less than the maximum copy number (col. 11, lines 1-3).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the method of Hilton into the printing system of Kikuno.

The suggestion/motivation for doing so would have been to reduce the amount of print consumable for the particular print job.

Therefore, it would have been obvious to combine three references to obtain the invention as specified in claim 6.

18. With respect to claim 7, Hilton teaches the method, wherein the interrupting step (e) comprises providing the user with the option of adjusting the amount of print consumable that is available (col. 11, lines 1-3). Also, arguments analogous to those presented for claim 6, are applicable.

19. With respect to claim 8, the combination teaches the method of claim 23, but it does not explicitly teach that the print consumable is stored in a cartridge.

Hilton, the same field of endeavor of monitoring/comparing the print job with the remaining print consumable amount in the printer, teaches the method, wherein:

the print consumable is stored in a first print cartridge; and

the interrupting step (e) further comprises:

(e) (i) receiving a filename for the first print cartridge (col. 9, lines 50-54);

(e) (ii) saving the remaining print consumable amount of the first print cartridge in a memory under the filename (step 120);

(e) (iii) replacing the first print cartridge with a second print cartridge having a remaining print consumable amount (col. 11, lines 1-3);

(e) (iv) resetting the remaining print consumable amount to the remaining print consumable amount of the second cartridge (col. 9, lines 50-54); and

(e) (v) returning to the comparing step (d) (col. 11, lines 1-3).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the method checking the remaining print consumable using the memory under a particular filename of Hilton into the method of Kikuno.

The suggestion/motivation for doing so would have been to check the remaining toner/ink amount more efficient and faster using the memory under the filename.

Therefore, it would have been obvious to combine three references to obtain the invention as specified in claim 8.

20. With respect to claim 9, Hilton teaches the method, wherein the second print cartridge is one of a new print cartridge having a maximum remaining print consumable amount and a used print cartridge having a remaining print consumable amount that is stored in memory under a filename (col. 2, lines 61-63 & col. 11, lines 1-3).

21. With respect to claim 10, it is well known in the art to one of ordinary skill in the art at the time of the invention to cancel the print job upon receiving an error message. This method is well known and conventionally used to cancel a print job that cannot be completed with the current condition.

22. With respect to claim 11, Hilton teaches the method of claim 23, wherein the interrupting step (e) comprises providing the user with an option of rendering the print job without any adjustments (steps 90-92).

Claims 16-17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kikuno and Bradshaw as applied to claim 15 above, and further in view of Hilton.

23. With respect to claim 16, arguments analogous to those presented for claims 3 and 6, are applicable.

24. With respect to claim 17, arguments analogous to those presented for claims 3 and 10, are applicable.

25. With respect to claim 21, Bradshaw discloses a CD printing device that receives a rectangular image data and converts it into a polar based image data (col. 5, lines 4-5) for printing on a CD or a label for the CD (col. 5, lines 39-41). Arguments analogous to those presented for claim 15, are applicable.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kikuno and Bradshaw as applied to claim 23 above, and further in view of Sakuma U.S. Patent No. 5,663,750.

26. With respect to claim 4, the combination teaches the method of claim 23, but it does not explicitly teach the interruption step (e) further comprising a step of providing the user with an option of adjusting the print quality setting of the print job, whereby the requested print consumable amount can be reduced.

Sakuma, the same field of endeavor of monitoring/comparing the print job with the remaining print consumable amount in the printer (fig. 9), teaches the method wherein:

the print job further includes a print quality setting relating to an amount of print consumable used to print an image (col. 4, lines 26-38); and

the interrupting step (e) comprises providing the user with the option of adjusting the print quality setting of the print job, whereby the requested print consumable amount can be reduced (col. 4, lines 26-38).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to implement the method of Sakuma into the printing system of Kikuno.

The suggestion/motivation for doing so would have been to reduce/save the amount of print consumable for the particular print job.

Therefore, it would have been obvious to combine three references to obtain the invention as specified in claim 4.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kikuno and Bradshaw as applied to claim 15 above, and further in view of Sakuma.

27. With respect to claim 18, arguments analogous to those presented for claim 4, are applicable.

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAN S. PARK whose telephone number is (571) 272-7409. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chan S. Park
Examiner
Art Unit 2622

csp
January 26, 2006

SUPERVISORY PATENT EXAMINER